Form 610014wd
03-00
U.S.

Iowa Department of Transportation

Office of Design
Soils Design Section

SUPPLEMENTAL REPORT OF BRIDGE SOUNDINGS

Design No. 113 File No. 30534 Date Reported 9-29-11

Project BRF-196-1(14)--38-81

Type and Size of Bridge 264'-0 X 60' PPCBB Road No. IA 196 County SAC

Bridge over CEDAR CREEK at Sta. 1072+00.60

Test Hole No.	Layer	*Core Type	Depth From	Depth To	Blows .5' Seat	Blows 1st .5'	Blows 2nd .5'	Blows Per Foot	PSF Cohesion	Friction	**Test	Density Pct.	Moisture %	AASHTO Class	Remarks
B-0188	C1	ST	4.0	5.0	2	2	4	6							
S ABUT	C2	ST	9.0	10.0	6	29	31	60							
	C3	ST	14.0	15.0	60	100									0.1 PEN.*
	C4	ST	19.0	20.0	64	100									0.1 PEN.*
	D	ST	24.0	25.0	17	73	9	82							
	E1	ST	29.0	30.0	3	6	8	14							
	E2	ST	34.0	35.0	6	8	10	18							
	F1	ST	39.0	40.0	6	12	18	30							
	F2	ST	44.0	45.0	12	22	27	49							
	F3	ST	49.0	50.0	15	23	30	53							
	F4	ST	59.0	60.0	6	16	21	37							
	F5	ST	69.0	70.0	11	20	29	49							
															*BOULDERS

Station Both Abutments estimated consolidation of 0.05 feet in Variable feet thick

compressible layers under the 6-12 feet embankment at the following rate:

Percent	10	30	50	70	90
Days	Essentially		Instantaneous		

Recommendations: No apparent stability or settlement problems as designed. Consider steel H piles with primary support in deep glacial profile shown on SPS sheets. Consider driving points to help penetrate boulders identified in Boring B-0188. No identifiable need to adjust scour information included on Situation Plan.

*SH – Shelby Tube Core
ST – Split Tube Core
DC – Diamond Core

*UU – Unconsolidated Undrained (Triaxial)
CU – Consolidated Undrained (Triaxial)
UC – Unconfined Compression (Cohesion = ½ U.C. Strength)

Robert Stanley
Reporting Engineer

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B-0189	B	ST	4.0	5.0	6	8	10	18							
S PIER	C1	ST	9.0	10.0	14	18	12	30							
	C2	ST	14.0	15.0	6	8	13	21							
	D	ST	19.0	20.0	6	11	13	24							
	E1	ST	29.0	30.0	8	17	16	33							
	E2	ST	39.0	40.0	9	25	40	65							
	E3	ST	49.0	50.0	4	12	20	32							
	E4	ST	59.0	60.0	12	18	25	43							
	E5	ST	69.0	70.0	14	21	30	51							

Station _____ estimated consolidation of _____ feet in _____ feet thick

compressible layers under the _____ feet embankment at the following rate:

Percent	10	30	50	70	90
Days					

Recommendations: _____

*SH – Shelby Tube Core
ST – Split Tube Core
DC – Diamond Core

*UU – Unconsolidated Undrained (Triaxial)
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Test Hole No.	Layer	*Core Type	Depth From	Depth To	Blows .5' Seat	Blows 1st .5'	Blows 2nd .5'	Blows Per Foot	PSF Cohesion	Friction	**Test	Density Pct.	Moisture %	AASHTO Class	Remarks
B-0190	B1	ST	4.0	5.0	3	4	6	10							
N ABUT	B2	ST	9.0	10.0	2	2	2	4							
	D1	ST	14.0	15.0	2	6	10	16							
	D2	ST	19.0	20.0	7	9	10	19							
	D3	ST	24.0	25.0	7	7	15	22							
	E1	ST	29.0	30.0	15	21	10	31							
	E2	ST	34.0	35.0	5	7	9	16							
	F1	ST	39.0	40.0	8	13	24	37							
	F2	ST	49.0	50.0	15	23	30	53							
	F3	ST	59.0	60.0	56	51	39	90							
	F4	ST	69.0	70.0	19	26	34	60							
	F5	ST	79.0	80.0	15	18	33	51							

Station _____ estimated consolidation of _____ feet in _____ feet thick

compressible layers under the _____ feet embankment at the following rate:

Percent	10	30	50	70	90
Days					

Recommendations: _____

*SH – Shelby Tube Core
ST – Split Tube Core
DC – Diamond Core

*UU – Unconsolidated Undrained (Triaxial)
CU – Consolidated Undrained (Triaxial)
UC – Unconfined Compression (Cohesion = ½ U.C. Strength)

Robert Stanley
Reporting Engineer

Form 610010Ewd
11-08

ENGLISH

Iowa Department of Transportation

DATE (MO / DA / YR) 08 / 10 / 2011

Office of Road Design (Soils)
Report of Bridge Soundings

COUNTY SAC ROUTE NO. IA 196 TOWNSHIP CEDAR RANGE 35W SECTION 19/20 PROJECT BRF-196-1(14)--38-81

TYPE AND SIZE OF BRIDGE 264' X 60' PPCBB BRIDGE OVER CEDAR CREEK AT STATION 1072+00.6

TEST HOLE NUMBER	STATION	+	C ORDINATE L LT CL RT	DIST	SURFACE ELEVATION	.	DEPTH TO WATER FEET	LOG OF HOLE TO FEET	.		DESCRIPTION OF MATERIAL
B-0187	1071	30	RT	32	1183	00	8.5	0	60	A	SOFT SILTY CLAY LOAM TOPSOIL
S PIER							PLUGGED	3	00	B	SOFT SILTY SANDY CLAY
								25	00	C	MEDIUM SAND W/ GRAVEL AND BOULDERS
								33	00	D	MEDIUM SAND
								75	00	E	FIRM TO VERY FIRM GLACIAL CLAY
B-0188	1070	68	LT	50	1181	46	8.0	0	60	A	SOFT SILTY CLAY LOAM TOPSOIL
S ABUT.							PLUGGED	3	00	B	STIFF SILTY SANDY CLAY W/ GRAVEL AND BOULDERS
WASH BORE	NO WATER USED							23	00	C	GRAVELLY SAND WITH BOULDERS
								28	00	D	MEDIUM SAND WITH OCC BOULDERS
								35	00	E	STIFF TO FIRM GLACIAL CLAY
								70	00	F	FIRM TO VERY FIRM GLACIAL CLAY
B-0189	1071	30	RT	34	1184	12	12.0	0	30	A	SOFT SILTY CLAY LOAM TOPSOIL
S PIER							PLUGGED	7	00	B	STIFF SILTY SANDY CLAY W/ GRAVEL AND BOULDERS
WASH BORE	NO WATER USED							18	00	C	MEDIUM GRAVELLY SAND W/ BOULDERS
								25	00	D	FIRM TO VERY FIRM GLACIAL CLAY
								70	00	E	VERY FIRM GLACIAL CLAY W/ OCC BOULDERS AND SAND SEAMS

JEFF OPPEDAHL
CHIEF OF PARTY

Form 610010Ewd
11-08

ENGLISH

Iowa Department of Transportation

DATE (MO / DA / YR) 08 / 10 / 2011

Office of Road Design (Soils)
Report of Bridge Soundings

COUNTY SAC ROUTE NO. IA 196 TOWNSHIP CEDAR RANGE 35W SECTION 19/20 PROJECT BRF-196-1(14)--38-81

TYPE AND SIZE OF BRIDGE 264' X 60' PPCBB BRIDGE OVER CEDAR CREEK AT STATION 1072+00.6

TEST HOLE NUMBER	STATION		C ORDINATE L LT CL RT	C ORDINATE L DIST	SURFACE ELEVATION		DEPTH TO WATER FEET	LOG OF HOLE TO FEET			LOG OF HOLE DESCRIPTION OF MATERIAL
	+				.			.			
B-0190	1074	32	LT	18	1210	7	30.0	0	60	A	ROADMETAL GRAVEL
N ABUT								10	00	B	SOFT TO STIFF SILTY SANDY CLAY FILL
WASH BORE	NO WATER USED							14	00	C	STIFF SILTY SANDY CLAY
								25	00	D	MEDIUM SAND
								35	00	E	GRAVELLY SAND W/ OCC BOULDERS
								80	00	F	FIRM TO VERY FIRM GLACIAL CLAY
B-0191	1073	52	LT	6.0	1207	9	32.0	1	00	A	CONCRETE ROADMETAL
N ABUT							PLUGGED	18	00	B	SOFT TO STIFF SILTY SANDY CLAY FILL
								30	00	C	MEDIUM SAND WITH GRAVEL AND BOULDERS
								80	00	D	FIRM TO VERY FIRM GLACIAL CLAY
B-0192	1072	66	RT	6.0	1205	3	27.8	17	80	A	BRIDGE DECK TO GROUND
N PIER								20	00	B	RIP RAP
								34	00	C	GRAVELLY SAND W/ BOULDERS
								80	00	D	FIRM GLACIAL CLAY

JEFF OPPEDDAHL
CHIEF OF PARTY